

December 18, 2000

Colonel Allan B. Carroll  
U.S. Army Corps of Engineers  
Norfolk District  
803 Front Street  
Norfolk, Virginia 23510-1096

Attn: Gerald Tracy  
Regulatory Branch

Re: Arlington Plantation Home Owner's  
Association, Permit Application  
Number 00-V0283-30, Northampton  
County, Virginia

Dear Colonel Carroll:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the above referenced proposed construction of a rock groin and proposed backfill of sand located in Northampton County, Virginia and its effects on the bald eagle (*Haliaeetus leucocephalus*) and the northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*) in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Your August 2, 2000 request for formal consultation was received on August 8, 2000.

This biological opinion is based on information provided on your August 2, 2000 letter, the September 25, 2000 public notice, telephone conversations, field investigations, and other sources of information. A complete administrative record of this consultation is on file in this office. This letter also provides the separate comments of the Service and the Department of the Interior pursuant to the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), which are included following the biological opinion.

#### Consultation History

- |         |   |
|---------|---|
| 5-10-00 | The U.S. Army Corps of Engineers (Corps) sent the Service a species notification form indicating that the project may affect the northeastern beach tiger beetle. |
| 6-7-00  | The Service and the Corps conducted a site visit.   |
| 6-23-00 | The Service sent a fax to the Corps recommending formal consultation. The fax also mentioned that an eagle nest was nearby.                                       |

- 8-2-00            The Corps sent the Service a letter requesting initiation of formal consultation.
- 8-8-00            The Service received the Corps request to initiate formal consultation.
- 8-24-00           The Service sent the Corps a letter stating that the request for formal consultation was received and was complete. The letter stated that the Service expected to provide the Corps a biological opinion no later than December 21, 2000.
- 8-30-00           The Service conducted a site visit.
- 9-25-00           The Corps published the public notice.

### BIOLOGICAL OPINION

#### DESCRIPTION OF PROPOSED ACTION

The Corps proposes to issue a permit to the Arlington Plantation Home Owner's Association, Arlington Plantation, Northampton County, Virginia pursuant to section 404 of the Clean Water Act and section 10 of the Rivers and Harbors Act. The applicant has applied to construct a 75-foot long, 20-foot wide rock groin and to place 450 cubic yards of sand along 130 linear feet of the Chesapeake Bay shoreline. The groin will extend 45 feet channelward of the mean high water (MHW) shoreline and will cover a maximum of 900 square feet of intertidal substrate. An existing groin is located 280 feet to the south. The fill sand will cover no more than 4,000 square feet of intertidal substrate to a height of two feet above MHW. The applicant's stated purpose is to trap moving sand along the shoreline to restore the beach and protect the shoreline against future erosion. Maps and drawings of the site are enclosed.

A Corps permit has been previously granted to Habitats, L.L.C. (Patrick Hand) (94-V1418-30). The work was located on the northern half of the shoreline (excluding the spit) and consisted of construction of 1,750 linear feet of rip-rap and construction of five 75-foot long stone groins. Following formal consultation, the Corps issued Regional Permit # 19 (RP-19) on November 6, 1995.

Along the southern half of the property, an additional Corps permit (96-V1229-30) was granted to Patrick Hand (issued as an RP-19) on October 21, 1996. The additional work consisted of construction of 500 linear feet of rip-rap and construction of two 100-foot stone groins at both ends at a 45-degree angle. The permit was conditioned per informal consultation. On August 28, 1998, a time extension until October 21, 1999 was granted for the work.

The "action area" is defined as all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action. The Service has determined that the action area for

this project is the section of the beach between Old Plantation Creek and Elliott's Creek that stretches from the northernmost existing groin north to a point 300 feet north of the proposed groin. Since the existing groin is located 280 feet to the south of the proposed groin, the total linear feet of shoreline in the action area is 580 feet. For a visual depiction, the action area is shown as beach sections 9 and 9Aa in Knisley's (2000) sketch of the beach, which is enclosed.

The action area was determined by several factors. The area between the northernmost existing groin and the proposed groin is included in the action area because sand is proposed to be added to the beach there. Sand movement between the groins will be affected since the purpose of the proposed groin is to trap moving sand. Furthermore, Knisley (1990) stated that groins "can actually cause erosion adjacent (usually to the south) to these structures. These structures may interrupt and capture sand from longshore movement and build up the beach around the structure but rob sand from the downstream shoreline." If erosion is likely on one side of a groin, then accretion is likely on the other. A study of aerial photographs of the beach between Old Plantation Creek and Elliott's Creek from 1995-1997 reveals that the northernmost groin caused sand accretion 300 feet to the north. Therefore, the proposed groin will likely affect the project area 300 feet north of the proposed groin.

#### STATUS OF THE BALD EAGLE IN THE CHESAPEAKE BAY RECOVERY UNIT

This information concerning the bald eagle was provided to the Norfolk District in a biological opinion dated June 23, 1998 for permit application 96-1438-18 from the Corps of Engineers, North Atlantic Division, Norfolk District (CENAO).

#### STATUS OF THE NORTHEASTERN BEACH TIGER BEETLE RANGEWIDE

This information concerning the northeastern beach tiger beetle was provided to the Norfolk District in a biological opinion dated April 2, 1998 for permit application CENAO 97-1951-30.

#### ENVIRONMENTAL BASELINE

Status of the Bald Eagle Within the Action Area - There is a bald eagle nest (nest number VANT98-01) within 750 feet of the proposed groin. That nest is considered active according to the Bald Eagle Protection Guidelines for Virginia (U.S. Fish and Wildlife Service and the Virginia Department of Game and Inland Fisheries 2000). The nest was occupied in 1998 but was not active during the breeding seasons of 1999 and 2000. An occupied nest is one where a pair of adult eagles was present during the breeding season (December 15 to July 15 in Virginia), even if there is no evidence that eggs were laid. Nests will be considered abandoned when they are not occupied for three consecutive nesting seasons. The Service's Virginia Field Office and the Virginia Department of Game and Inland Fisheries may be able to determine whether the nest is considered abandoned as early as January 2001.

Status of the Northeastern Beach Tiger Beetle Within the Action Area - Adults and larvae of the northeastern beach tiger beetle have been consistently found within the action area since 1995 (Knisley 2000). During the period 1995-2000, Knisley (2000) found an average of 28 adult and 18 larval tiger beetles in the action area per year. Beach section 9 (shown in the enclosed drawing) averaged 1.4 meters in width, and beach section 9Aa averaged 5.9 meters in width (Knisley 2000).

#### EFFECTS OF THE ACTION ON THE BALD EAGLE

Direct Effects - Activity during the construction phase could cause nest abandonment, and/or loss of eggs or young.

#### EFFECTS OF THE ACTION ON THE NORTHEASTERN BEACH TIGER BEETLE

Direct Effects - Direct impacts to the tiger beetle will result from the crushing of adult beetles during construction. Placement of equipment and materials on the beach, foot traffic, and vehicle use within the construction area will result in temporary loss of habitat for adults through disruption of their daily activity patterns (*i.e.*, foraging, mating, basking, egg-laying). Larval tiger beetles will be injured or killed through crushing, dislodging, and entombment during construction of the groin and during the fill of 450 cubic feet of sand. Larval beetles will also be prevented from feeding during that time due to their sensitivity to vibrations, movements, and shadows, resulting in injury and potentially death. Existing habitat for both larval and adult beetles will be permanently lost within the footprint of the groin between mean low water and the landward edge of the beach.

Interrelated and Interdependent Actions - An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for its justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation. No activities interrelated to or interdependent with the proposed action are known at this time.

Indirect Effects - Indirect effects are defined as those that are caused by the proposed action and are later in time, but still are reasonably certain to occur (50 CFR 402.02). Groins are designed to capture sand from longshore movement; however, groins interrupt the pattern of sand movement, and accelerated erosion may occur on adjacent shorelines. Previous groins between Old Plantation Creek to the north and Elliott's Creek to the south do not appear to have had a significant effect on the natural beach profile (Knisley pers. comm.). The construction of another groin will not likely have a noticeable effect on the beach profile nor significantly alter long-term adult and larval tiger beetle densities.

According to the application, the beach will be of community use. Building the groin and adding the fill sand are likely to make the beach more desirable for human activities. Consequently, an indirect effect

of the proposed action is increased foot traffic on the beach. The increased foot traffic will adversely affect tiger beetle habitat and will harm tiger beetles in the future, particularly in recruitment of larvae (Knisley and Hill 1989).

Past shoreline activities between Old Plantation Creek and Elliott's Creek did not include beach renourishment, though this project includes the addition of 450 cubic feet of sand to the beach. While long-term effects of beach renourishment are not known, short-term effects are detrimental to larvae (U.S. Fish and Wildlife Service 1994). Tiger beetles are sensitive to sand grain size, though they do have some tolerance regarding grain size (Knisley pers. comm.). Renourishing with sand grains that are very different in size from the existing beach could cause tiger beetles to abandon the beach.

Future maintenance of the proposed shoreline stabilization structures may not require Corps authorization. These activities may result in injury or death to adult and larval tiger beetles through heavy foot traffic on beach areas, use/stockpiling of heavy equipment, and stockpiling/placement of materials. Maintenance activities may also result in temporary or permanent habitat loss. These activities may result in further impacts to the tiger beetle population at this site.

### CUMULATIVE EFFECTS

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Construction of shoreline stabilization structures (*e.g.*, riprap, bulkhead) landward of MHW may occur within the action area in the future and such activities would not require Corps authorization. This type of activity could adversely affect tiger beetles directly through death or injury during pre-construction and construction activities and temporary and permanent habitat loss. Any surviving larvae would likely die during winter storms and erosion because their ability to migrate landward would be restricted. Additional future activities that may affect the northeastern beach tiger beetle include construction of shoreline stabilization structures (channelward of MHW) and use of dredge material for beach nourishment. These activities will require a permit from the Corps and will be reviewed when a federal permit is applied for.

### CONCLUSION

After reviewing the status of the bald eagle, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the proposed action is not likely to jeopardize the continued existence of the bald eagle. No critical habitat has been designated for this species; therefore, none will be affected.

After reviewing the status of the northeastern beach tiger beetle, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the proposed action is not likely to jeopardize the continued existence of the northeastern beach tiger beetle. No critical habitat has been designated for this species; therefore, none will be affected.

### INCIDENTAL TAKE STATEMENT

Sections 9 of the Act and federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without a special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns such as breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns, which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary, and must be undertaken by the Corps so that they become binding conditions of any permit issued to the applicant for the exemption in action 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit, the protective coverage of section 7(o)(2) may lapse.

### AMOUNT OR EXTENT OF TAKE

The Service anticipates one pair of adult bald eagles with its progeny could be taken as a result of this proposed action. The incidental take is expected to be in the form of harassment to the adults and death to eggs or unfledged eaglets.

The Service will not refer the incidental take of any bald eagle for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§ 703-712), or the Bald Eagle Protection Act of 1940, as amended (16 U.S.C. §§ 668-668d), if such take is in compliance with the terms and conditions specified herein.

The Service anticipates incidental take of the northeastern beach tiger beetle will be difficult to detect for the following reasons: individuals are small, larvae are difficult to identify correctly, finding a dead or impaired specimen is unlikely, and losses may be masked by seasonal fluctuations in numbers. However, take of this species can be anticipated by loss of beach habitat within this section of beach where the density of tiger beetles is known due to monitoring for the past five years.

The Service anticipates a temporary loss of 130 linear feet and the permanent loss of 20 linear feet of tiger beetle habitat. The temporary loss will be a result of adding the fill sand, and the permanent loss will be a result of constructing the groin. Furthermore, the Service anticipates a small number (fewer than 100 adults and fewer than 50 larvae) of northeastern beach tiger beetles could be taken as a result of the addition of fill sand and the construction of the groin. The incidental take is expected to be harassment to adult beetles or lethal in the form of crushing adult or burying larval tiger beetles.

#### REASONABLE AND PRUDENT MEASURES

The Service believes no reasonable and prudent measures are necessary or appropriate to minimize take of bald eagles. Bald eagles have never laid eggs at this nest (VANT98-01). If the nest is unoccupied during the 2001 breeding season, the nest will be declared abandoned since 2001 will be the third consecutive year that the nest will have been unoccupied.

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of northeastern beach tiger beetles:

- o Construction activities must be conducted when adult beetles are not present.
- o Human activity, materials, and equipment on the beach must be minimized to reduce the impact to adult and larval tiger beetles.
- o Sand grain size should be within the tolerance limits for larval tiger beetles.

#### TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the Act, the Corps must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are nondiscretionary.

Monitoring is usually required to determine the extent of take. In this instance, however, the Service does not require monitoring impacts to the tiger beetle for the several reasons. The action area and anticipated take levels are small. Extensive monitoring has been conducted at the action area for the

past five years. The results of the past monitoring appear to show that the addition of groins in this section of beach have not significantly affected tiger beetle populations. The Service does not believe that monitoring will contribute to the scientific understanding of the northeastern beach tiger beetle.

1. No construction, earth-moving, or placement of materials or equipment will occur on the beach between June 1 and September 15 of any year.
2. No maintenance of the groin between June 1 and September 15 of any year.
3. Materials will be transported to the beach only on an as-needed basis.
4. No use of vehicles or heavy equipment will occur on the beach outside of the applicant's property boundaries.
5. No refueling of vehicles or equipment on the beach.
6. No use of pesticides on the beach.
7. At least 60 days prior to the proposed construction, the Corps or the applicant must provide two vials of sand to the Service at the address below. Each vial should contain at least 250 milliliters of sand (at least ½ cup). One vial should contain sand from the existing beach in the location where the fill sand is proposed to be added. The second vial should contain sand from the source of the fill sand. The Service will then determine whether the proposed fill sand is suitable prior to final authorization to place the sand on the beach.
8. The applicant is required to notify the Service before initiation of construction and upon completion of the project at the address given below. All additional information to be sent to the Service should be sent to the following address:

Virginia Field Office  
U.S. Fish and Wildlife Service  
6669 Short Lane  
Gloucester, Virginia 23061  
Phone: (804) 693-6694, ext. 104  
Fax: (804) 693-9032

9. Care must be taken in handling any dead specimens of northeastern beach tiger beetle that are found in the project area to preserve biological material in the best possible state. In conjunction with the preservation of any dead specimens, the finder has the responsibility to ensure that evidence intrinsic to determining the cause of death of the specimen is not



unnecessarily disturbed. The finding of dead specimens does not imply enforcement proceedings pursuant to the ESA. The reporting of dead specimens is required to enable the Service to determine if take is reached or exceeded and to ensure that the terms and conditions are appropriate and effective. Upon locating a dead specimen, notify the Service at the address provided.

The Service believes that one pair of adult bald eagles with its progeny and a small number (fewer than 80) northeastern beach tiger beetles could be incidentally taken as a result of the proposed action. The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures. The Corps must immediately provide an explanation of the causes of the take, and review with the Service the need for possible modification of the reasonable and prudent measures and the terms and conditions.

### CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to further minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

Due to the amount of shoreline stabilization/alteration taking place along the shoreline of the Chesapeake Bay, the Service recommends that mitigation for adverse impacts to northeastern beach tiger beetles and for loss of its habitat be undertaken. As the Corps continues to issue permits for shoreline alteration within the Chesapeake Bay watershed, the amount of habitat available for the continued existence of this species is decreasing. For recovery and delisting of the tiger beetle within the Chesapeake Bay of Maryland and Virginia, at least 26 populations must be permanently protected at extant sites (U.S. Fish and Wildlife Service 1994). The Service is concerned that in the near future, projects proposed in areas critical to the continued existence of the tiger beetle will result in jeopardy to the species.

Due to the immediate threats to the species, the Service recommends that the Corps require mitigation for this project. Because the proposed project is located in an area already significantly altered by shoreline stabilization structures and anticipated take is minimal, compensation of 1:1 is recommended. That is, 580 linear feet of shoreline with an appropriate upland buffer should be permanently protected via a permanent conservation easement. The Service will be glad to work with the Corps and the applicant to locate and preserve such an area.

For the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

#### REINITIATION NOTICE

This concludes formal consultation on the action outlined in the August 2, 2000 request to initiate formal consultation. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

#### FISH AND WILDLIFE COORDINATION ACT COMMENTS

The following comments constitute the report of the Service and the Department of the Interior on this project and are submitted under provisions of the Fish and Wildlife Coordination Act (FWCA).

The applicant stated that he plans to stabilize the beach by planting beach grass. The Service recommends the majority of the planting be done with American beach grass, *Ammophila breviligulata*, because it is native to Virginia and is an excellent sand-binding species (Radford et al. 1968). Since American beach grass is a cool-season grass, it should be planted in late winter (January-March). The Service recommends that any other species planted be native to Virginia.

The Service appreciates this opportunity to work with the Corps in fulfilling our mutual responsibilities under the ESA and FWCA. If you have any questions, please contact Mr. Eric Davis at (804) 693-6694, extension 104.

Sincerely,

Karen L. Mayne  
Supervisor  
Virginia Field Office

Enclosures

LITERATURE CITED

- Knisley, C.B. 1990. A survey of the Cape Charles (Virginia) Accawmacke Plantation for the northeastern beach tiger beetle, and possible impact of the proposed development on this beetle. Final report for Espy, Huston and Associates, Incorporated.
- Knisley, C.B. 2000. Monitoring of the northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*) along the shoreline, north of Elliott's Creek, Northampton County, Virginia, 2000, final report.
- Knisley, C.B. and J.M. Hill. 1989. Impact of human activity on *Cicindela dorsalis* and *C. puritana*. Subfinal report: The effects of different levels of visitor use on *Cicindela dorsalis* at Flag Ponds, Calvert County, Maryland.
- Radford, A.E., H.E. Ahles, and C.R. Bell. 1968. Manual of the vascular flora of the Carolinas. University of North Carolina Press. Chapel Hill, NC. 1183 pp.
- U.S. Fish and Wildlife Service. 1994. Northeastern beach tiger beetle (*Cicindela dorsalis dorsalis* Say) recovery plan. Hadley, MA. 60 pp.
- U.S. Fish and Wildlife Service and Virginia Department of Game and Inland Fisheries. 2000. Bald eagle protection guidelines for Virginia. Gloucester and Richmond, VA. 6 pp.

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bcc: ARD-ES, Region 5

Endangered Species Coordinator, Region 5 (Paul Nickerson)

Endangered Species Biologist, CBFO (Mary Ratnaswamy)

Law Enforcement, Yorktown, VA (Dan Hurt)

Law Enforcement, Senior Resident Agent, Richmond, VA (Don Patterson)

Other FOs that write opinions on the species (NEFO, NJFO, RIFO)

VDGIF, Richmond (Ray Fernald)

VDGIF, Non-Game Biologist for that Region of Virginia (Don Schwab)

DNH, Richmond (Tom Smith)

VDACS, Richmond (Keith Tigner)